PROCEEDING

The Third APIS – ARCAP 2016

The 3rd Animal Production International Seminar

The 3rd ASEAN Regional Conference on Animal Production

Enhancing Synergistic Roles of Stakeholders for Development of Sustainable Livestock Production

Batu, Indonesia, October 19-21, 2016

Editors:

- Dr. Ir. Marjuki, M.Sc. (Brawijaya University, Indonesia)
- Aswah Ridlowi, SPt., M.Sc. (Brawijaya University, Indonesia)
- Firman Jaya, S.Pt., MP. (Brawijaya University, Indonesia)
- Prof. Dr. Ir. Trinil Susilowati, MS. (Brawijaya University, Indonesia)
- Assoc.Prof. Dr. Suntorn Wittayakun (Rajamangala University of Technology Lanna, Thailand)
- Cynthia D.K. Bottema, Ph.D. (University of Adelaide, Australia)
- Prof.Dr. Abdul Razak Alimon (Universiti Putra Malaysia, Malaysia)
- Prof. Liang Chou Hsia, Ph.D. (National Pingtung University of Science and Technology, Taiwan)
- Prof. A.K.Thiruvenkadan,M.V.Sc., Ph.D. (Tamil Nadu Veterinary and Animal Sciences University, India)

Enhancing Synergistic Roles of Stakeholders for Development of Sustainable Livestock Production

Proceeding
The 3rd Animal Production International Seminar and The 3rd ASEAN Regional Conference on Animal Production (3rd APIS & ARCAP 2016)
Batu, Indonesia, October 19-21, 2016

Organized by:
Faculty of Animal Husbandry, Brawijaya University, Indonesia
In collaboration with:
Brawijaya University, Indonesia
Indonesian Society of Animal Science
Universiti Putra Malaysia, Malaysia
Malaysian Society of Animal Production
Rajamangala University of Technology Lanna, Thailand

Published by:

UB Press
Jl. Veteran 10-11 Malang 65145 Indonesia
Telp: 62-341-554357, Fax: 62-341-554357
E-mail: ubpress@ub.ac.id or ubpress@gmail.com
Website : http://www.ubpress.ub.ac.id
ISBN: 978-602-432-017-1
xxi +751 pp, 19 cm x 26 cm

Preface

Following the success of the First and Second Animal Production International Seminar (1st and 2nd APIS) held in 2010 and 2013, respectively, it has been held successfully a Collaborative Seminar of The 3rd Animal Production International Seminar and The Third ASEAN Regional Conference on Animal Production (3rd APIS & ARCAP 2016 Conference) in the Shining City of Batu, East Java Province, Indonesia from 19 to 21 October 2016 with the theme of Improving the Synergistic Roles of Stakeholders for Development of Sustainable Livestock Production. More than 150 Abstract and papers have been presented and discussed during the sminar by either keynote speakers or participants from different countries. The papers cover animal production and nutrition, animal reproduction and breeding, animal health and veteriner, animal products technology, as well as social, economy, and animal production systems.

Full papers of this seminar are published in this proceeding. It is hoped that this proceeding would provide valuable information and contribution for readers in improving the productivity and sustainability of livestock production.

To follow up the seminar and for regular and continuous discussion on the related aspects of sustainable livestock production development, it is the committee's great honours and pleasures to inform that The Fourth Animal Production International Seminar (4th APIS) will be held in 2019 and to invite again the participants (academics, scientist, practitioners, decision maker on livestock production as well as industries and government) to attend and actively support for the next success of the next APIS seminar.

Malang, October 22, 2016

Editors

Correlation between Crude Protein Levels in the Diets and Carcass Weight and Carcass Percentage in Thin Tailed Lambs

R. Choirunnisa[1], A. Prima[1], N. Luthfi[1], M. Arifin[1], Sutaryo[1] and A. Purnomoadi[1]

[1] Faculty of Animal and Agriculture Sciences, Diponegoro University, Undip Tembalang Campus, Semarang 50275, Indonesia
Corresponding author: agung194@yahoo.com

Abstract

The aim of this experiment was to know the correlation between crude protein levels in the diets and carcass weight and carcass percentage of thin tailed lambs fattened after weaning. This experiment used 12 thin tailed lambs, aged approximately 3 months with body weight ranged at 12.9-18.61 kg. Feeding given was arranged to allow 12, 14 and 16% crude protein and TDN at 60% using the following feeds ingredients such as rice bran, cassava peel, sugar cane top, cassava flour, soybean meal, fish meal, molasses and minerals. The lambs were slaughtered after 3 month feeding treatment. Carcass from slaughtered animal was weighed to obtain carcass weight and percentage to slaughter weight. The data obtained was analyzed using correlation analysis. Slaughtered weight was found ranged at 19.62-29.89 kg resulted carcass weight at 8.23-14.13 kg or equal to 41.94-49.56% carcass percentage. The correlation between crude protein levels in the diets with carcass weight and carcass percentage of thin tailed lambs were weak, being 0.22 and 0.32, respectively. Thus, it can be concluded that crude protein levels in the diets was positive and weak correlated to the carcass weight and carcass percentage in thin tailed lambs fattened after weaning.

***Keywords** : lambs, crude protein levels, carcass weight, carcass percentage*

Introduction

Thin tailed sheep is one of the sheep used for fattening purposes. In addition, this sheep has several advantages including a high level of prolificacy, resistant to disease and heat and resistant to environmental conditions (Mulliadi and Arifin, 2010). Fattening can be performed on lamb after weaning which is considered has a faster growth rate than on sheep.

Lambs that are in growing period required high protein and TDN levels to support the rapid growth of lambs (Prima *et al*., 2016), and in turn it can increase the carcass production of lambs. The previous research showed that addition of high protein can support the rapid growth and increase the carcass weight and carcass percentage of sheep (Purbowati *et al*., 2005). Increasing levels of protein in the diets from 14.48% to 17.42% were able to increase carcass percentage from 43.81 to 45.62% at 12 months of age of sheep (Purbowati, 2007). However, there

is a different in growth pattern in lamb and sheep. The growth of lamb is more in non-carcass portion (viscera, head, bottom leg) rather than of carcass portion. Therefore, it is needed to be evaluated on a high protein levels in feeding lambs after weaning on carcass weight and carcass percentage.

Methodology

This experiment used 12 thin tailed lambs, aged approximately 3 months with body weight ranged at 12.9-18.61 kg. They were fed a pelleted complete feed composed of rice bran, cassava peel, sugarcane top, cassava flour, soybean meal, fish meal, molasses and minerals which was arranged to give crude protein of 12, 14 and 16% with total digestible nutrients (TDN) was at 60%. The feed and water were given ad libitum.

The lambs were slaughtered after 3 months rearing under those feedings. Lambs were fasted for 6 hours prior to be slaughtered. After being slaughtered and carcassing, the carcass of lamb was aging at 17°C in 10 hours, then was weighed to determine carcass weight.

The data was obtained and analyzed using correlation analysis. The relationship between the two variables could be seen from the magnitude of the correlation value where value from 0 to 0.199 (very weak); 0.2 to 0.399 (weak); 0.40 to 0.599 (medium); from 0.60 to 0.799 (strong); and 0.80 to 1 (very strong) (Sugiyono, 2007).

Result and Discussion

The result (Figure 1) showed that feeding with different crude protein levels has a weak (r= 0.22) correlation to the lamb carcass weight. It was comparable to the value of the correlation to the percentage of lambs carcass. Feeding with crude protein levels had the weak (r= 0.32) correlation to percentage of lambs carcass. Figure 1 showed the correlation of crude protein levels in the diet and carcass weight and carcass percentage. The results showed that every 2% increasing in protein content of feed could increase the percentage of carcasses by 0.7% in a lamb after weaning. This was in contrast with the previous research conducted by Purbowati (2007) that every increase in the diets of 3% protein content of feed could increase the percentage of carcasses by 2% in sheep. This result indicated that the strength of correlation between crude protein levels in the diet and the carcass percentage was differ between lamb and sheep, in which sheep was more correlated than of lamb. This phenomenon agreed to the fact that the body part which grow faster in young animal is a non-carcass, while in mature animal is mainly on carcass portion (Owens et al., 1993).

Conclusion

Based on the result of experiment, it can be concluded that crude protein levels in the diets was positive and weak correlated to the carcass weight and carcass percentage of thin taild lambs fattened after weaning.

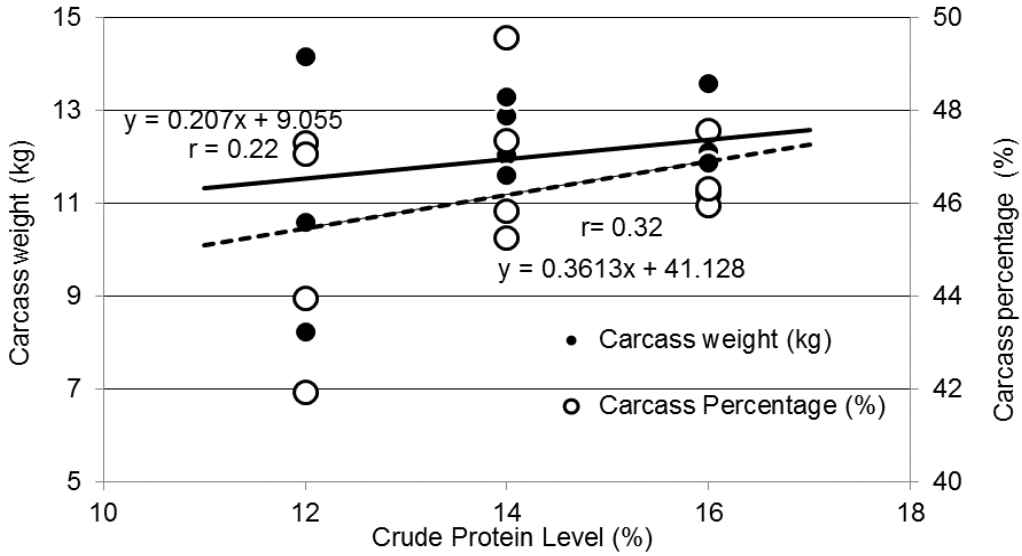

Figure 1. Correlation between crude protein levels in the diets (12, 14, 16%) and carcass weight (kg; solid line) and carcass percentage (%; dotted line) of lambs.

References

Mulliadi, D. and J. Arifin. 2010. Pendugaan keseimbangan populasi dan heterozigositas menggunakan pola protein albumin darah pada populasi domba ekor tipis (*Javaese Thin Tailed*) di daerah Indramayu. J. Ilmu Ternak Vol 10: 65-72.

Owens, F. N., P. Dubeski and C. F. Hanson. 1993. Factors that Alter the Growth and Development of Ruminants. J. Anim. Sci. 71: 3138-3150.

Parakkasi, A. 1999. Science and Nutrition of Ruminan. Ed 5. Indonesia University Press, Jakarta.

Purbowati, E., C.I. Sutrisno, E. Baliarti, S.P.S. Budhi and W. Lestariana. 2005. Tumbuh kembang karkas dan komponen karkas domba lokal jantan yang dipelihara di pedesaan. Pros. Seminar Nasional Teknologi Peternakan dan Veteriner. Bogor, 12 – 13 September 2005. Puslitbang Peternakan, Bogor. Pages 487 – 494.

Purbowati, E. 2007. Kajian Perlemakan Domba Lokal dengan Pakan Komplit dari Jerami Padi dan Konsentrat pada Bobot Potong yang Berbeda. Dotoral Program of Gadjah Mada University, Yogyakarta. (Disertation).

Prima, A., N. Lutfi, E. Rianto, and A. Purnomoadi. 2016. Body weight gain and feed efficiency of young thin-tailed sheep raised under intensive feeding at different level of protein. Proceedings of 1st Tropical Animal Science Production. Bangkok, Thailand. Pages 283-286.

Sugiyono. 2007. Metode Penelitian Administrasi. Alfabeta, Bandung.